

WHAT IS CLAIMED IS:

- 1 1. A method comprising:
2 receiving an indication on a network component that one or more packets
3 have been received from a network;
4 the network component notifying a TCP-A (transport control protocol –
5 accelerated) driver that the one or more packets have arrived;
6 a TCP-A driver performing packet processing for at least one of the one or
7 more packets; and
8 the TCP-A driver performing one or more operations that result in a data
9 movement module placing one or more corresponding payloads of
10 the at least one of the one or more packets into a read buffer.
- 1 2. The method of claim 1, additionally comprising, in response to receiving
2 an indication on a network component that one or more packets have
3 been received from the network, the network component:
4 splitting each of the one or more packets into a header and a payload; and
5 posting each of the header and payload to one or more post buffers.
- 1 3. The method of claim 2, wherein the TCP-A driver performs packet
2 processing by processing each of the headers, the method additionally
3 comprising fetching a next header of the one or more headers prior to
4 completing the processing of the current header.

1 4. The method of claim 1, wherein said performing one or more operations
2 that result in a data movement module placing one or more corresponding
3 payloads of the at least one of the one or more packets into a read buffer
4 comprises sending a request to a data movement module driver to write
5 the one or more corresponding payloads to the read buffer.

1 5. The method of claim 1, wherein said TCP-A driver performing one or more
2 operations that result in a data movement module placing one or more
3 corresponding payloads of the at least one of the one or more packets into
4 a read buffer comprises programming the data movement module to write
5 the one or more corresponding payloads to the read buffer.

1 6. The method of claim 1, wherein the data movement module comprises a
2 DMA (direct memory access) engine.

1 7. The method of claim 6, wherein the DMA engine resides on a chipset.

1 8. The method of claim 6, wherein the DMA engine resides on a host
2 processor as a support module.

1 9. The method of claim 1, additionally comprising:
2 receiving a request on an operating system to transmit data over the
3 network;
4 the operating system notifying the TCP-A driver that there is data to be
5 transmitted;

the TCP-A driver performing one or more operations that result in the data
being transmitted to the network component;
in response to receiving the data, the network component creating one or
more packets for transmission by packetizing the data; and
the network component transmitting the one or more packets over the
network.

10. An apparatus comprising:

a network component capable of:

receiving an indication on a network component that one or more
packets have been received from a network; and

notifying a TCP-A (transport control protocol – accelerated) driver
that the one or more packets have arrived; and

a TCP-A driver capable of:

performing packet processing for at least one of the one or more
packets; and

the TCP-A driver performing one or more operations that result in a
data movement module placing one or more corresponding
payloads of the at least one of the one or more packets into
a read buffer.

1 11. The apparatus of claim 10, additionally comprising an operating system
2 capable of:

3 receiving a request to transmit data over the network; and

4 notifying the TCP-A driver that data is ready to be transmitted;

5 wherein:

6 the TCP-A driver is capable of performing one or more operations

7 that result in the data being transmitted to the network

8 component; and

9 the network component is capable of:

10 creating one or more packets for transmission by packetizing

11 the data in response to receiving the data; and

12 transmitting the one or more packets over the network.

1 12. The apparatus of claim 10, wherein in response to receiving an indication

2 on a network component that one or more packets have been received

3 from the network, the network component is additionally capable of:

4 splitting each of the one or more packets into a header and a payload; and

5 posting each of the header and payload to one or more post buffers.

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1 13. The apparatus of claim 12, wherein the TCP-A driver performs packet
2 processing by processing each of the headers, and the TCP-A driver is
3 additionally capable of fetching a next header of the one or more headers
4 prior to completing the processing of the current header.

1 14. A system comprising:

2 a chipset having a DMA (direct memory access) engine, the chipset
3 communicatively coupled to a TCP-A (Transport Control Protocol –
4 Accelerated) driver of a processor and to a network component;

5 the network component capable of:

1 receiving an indication that one or more packets have been
2 received from a network; and

3 notifying the TCP-A (transport control protocol – accelerated) driver
4 that the one or more packets have arrived; and

5 the TCP-A driver of the processor capable of:

6 performing packet processing for at least one of the one or more
7 packets; and

8 performing one or more operations that result in a data movement
9 module placing one or more corresponding payloads of the
10 at least one of the one or more packets into a read buffer.

1 15. The system of claim 14, additionally comprising an operating system of
2 the processor capable of:

3 receiving a request to transmit data over the network; and

4 notifying the TCP-A driver that data is ready to be transmitted;

5 wherein:

6 the TCP-A driver is capable of performing one or more operations

7 that result in the data being transmitted to a network

8 component; and

9 the network component is capable of:

10 creating one or more packets for transmission by packetizing

11 the data in response to receiving the data; and

12 transmitting the one or more packets over the network.

1 16. The system of claim 14, wherein in response to receiving an indication on
2 a network component that one or more packets have been received from
3 the network, the network component is additionally capable of:

4 splitting each of the one or more packets into a header and a payload; and

5 posting each of the header and payload to one or more post buffers.

1 17. The system of claim 16, wherein the TCP-A driver performs packet
2 processing by processing each of the headers, and the TCP-A driver is

3 additionally capable of fetching a next header of the one or more headers
4 prior to completing the processing of the current header.

1 18. A machine-readable medium having stored thereon instructions, the
2 instructions when executed by a machine, result in the following:

1 receiving an indication on a network component that one or more packets
2 have been received from a network;

3 the network component notifying a TCP-A (transport control protocol –
4 accelerated) driver that the one or more packets have arrived;

5 a TCP-A driver performing packet processing for at least one of the one or
6 more packets; and

7 the TCP-A driver performing one or more operations that result in a data
8 movement module placing one or more corresponding payloads of
9 the at least one of the one or more packets into a read buffer.

1 19. The machine-readable medium of claim 18, wherein in response to
2 receiving an indication on a network component that one or more packets
3 have been received from the network, the instructions additionally result
4 in:

5 splitting each of the one or more packets into a header and a payload; and
6 posting each of the header and payload to one or more post buffers.

1 20. The machine-readable medium of claim 19, wherein the TCP-A driver
2 performs packet processing by processing each of the headers, the
3 instructions additionally result in fetching a next header of the one or more
4 headers prior to completing the processing of the current header.

1 21. The machine-readable medium of claim 18, wherein the instructions that
2 result in performing one or more operations that result in a data movement
3 module placing one or more corresponding payloads of the at least one of
4 the one or more packets into a read buffer additionally result in sending a
5 request to a data movement module driver to write the one or more
6 corresponding payloads to the read buffer.

1 22. The machine-readable medium of claim 18, wherein the instructions that
2 result in said TCP-A driver performing one or more operations that result
3 in a data movement module placing one or more corresponding payloads
4 of the at least one of the one or more packets into a read buffer
5 additionally result in programming the data movement module to write the
6 one or more corresponding payloads to the read buffer.

1 23. The machine-readable medium of claim 18, wherein the data movement
2 module comprises a DMA (direct memory access) engine.

1 24. The machine-readable medium of claim 24, wherein the DMA engine
2 resides on a chipset.

1 25. The machine-readable medium of claim 24, wherein the DMA engine
2 resides on a host processor as a support module.

1 26. The machine-readable medium of claim 18, the instructions additionally
2 result in:

3 receiving a request on an operating system to transmit data over the
4 network;

5 the operating system notifying the TCP-A driver that there is data to be
6 transmitted;

7 the TCP-A driver performing one or more operations that result in the data
8 being transmitted to the network component;

9 in response to receiving the data, the network component creating one or
10 more packets for transmission by packetizing the data; and

11 the network component transmitting the one or more packets over the
12 network.